

pt. 4b

of writing report 5th May 1959 Received London 9 JUN 1959 Port Rijeka No. 805
ey held at Pula No. of visits 28 In shops 10.9.1957 12. AUG. 1958
On vessel 37 First date 6.5.1958 Last date 8. April 1959

FIRST ENTRY REPORT ON INTERNAL COMBUSTION MACHINERY

Name m/T. "OSTRAVA" ex "ISTINA" Gross tons 13339
in R.B. Managers Port of Registry Year Month
Pula Yugoslavia By Brodogradiliste "Uljanik" Yard No. 220 When 1958 9
Engines made at Pula By - " - Eng. No. 013 When 1958
ng made at - By Ottensener Eisenwerk 5968 and 5969 1958
ey boilers made at Zagreb By Tvornica Parnih Kotlova Blr. Nos. 1530 When 1958
hinery installed at Pula By Brodogradiliste "Uljanik" When 1958

ulars of restricted service of ship, if limited for classification
ulars of vegetable or similar cargo oil notation, if required Carrying petroleum in bulk
to be classed for navigation in ice? No Is ship intended to carry petroleum in bulk? Yes
igerating machinery fitted? Yes If so, is it for cargo purposes? No Type of refrigerant Freon 12
refrigerating machinery compartment isolated from the propelling machinery space? No Is the refrigerated cargo installation intended to be classed? No

Following particulars should be given as fully and as clearly as possible. Where the answer is "No" or "None", say so! Ticks and other signs of doubtful meaning are not to be used. Where the
ng is not applicable to the installation, a black line may be inserted. If the main engines have been constructed at another port and are covered by a separate report, the particulars given in that
need not be repeated below, but the port and report number should be stated.

f main engines 1 No. of propellers 1 Brief description of propulsion system Diesel Engine Direct drive
IN RECIPROCATING ENGINES. Licence Name and Type No. Uljanik - B&W 774-VTEF-160 Supercharge
f cylinders per engine 7 Dia. of cylinders 740 mm stroke(s) 1600 mm 2 or 4 stroke cycle 2 Single or double acting single
mum approved BHP per engine 8750 at 115 RPM of engine and 115 RPM of propeller.
sponding MIP 8.0 Kg/sq.cm. (For DA engines give MIP top & bottom) Maximum cylinder pressure 55 Kg/sq.cm Machinery numeral 013 1750
ne cylinders arranged in Vee or other special formation? No If so, number of crankshafts per engine -

STROKE ENGINES. Is the engine of opposed piston type? No If so, how are upper pistons connected to crankshaft? -
e exhaust discharged through ports in the cylinders or through valve(s) in the cylinder covers? through valves No. and type of mechanically driven scavenge pumps or blowers per
e and how driven Two turboblowers driven by exhaust gas.
of exhaust gas driven scavenge blowers per engine 2 Where exhaust gas driven blowers only are fitted, can the engine operate with one blower out of action? yes
stand-by or emergency pump or blower is fitted, state how driven Electric motor No. of scavenge air coolers 2 Scavenge air pressure at full
320 mm Hg. 6.30 Are scavenge manifold explosion relief valves fitted? Yes

R STROKE ENGINES. Is the engine supercharged? - Are the undersides of the pistons arranged as supercharge pumps? - No. of exhaust gas driven blowers per
e - No. of supercharge air coolers per engine - Supercharge air pressure - Can engine operate without supercharger? -

& FOUR STROKE ENGINES-GENERAL. No. of valves per cylinder: Fuel 2 Inlet - Exhaust 1 Starting 1 Safety 1
rial of cylinder covers Alloy molyb. steel Material of piston crowns Alloy molyb. steel Is the engine equipped to operate on heavy fuel oil? yes
ng medium for : Cylinders Fresh water Pistons Lub. oil Fuel valves Fuel oil Overall diameter of piston rod for double acting engines -
e rod fitted with a sleeve? No Is welded construction employed for: Bedplate? yes Frames? yes Entablature? Part Is the crankcase separated from the
side of pistons? Yes Is the engine of crosshead or trunk piston type? head Total internal volume of crankcase 140 cu.m. No. and total area of explosion relief
es 7=7950 sq.cm Are flame guards or traps fitted to relief devices? - Is the crankcase readily accessible? yes If not, must the engine be removed for
haul of bearings, etc? - Is the engine secured directly to the tank top or to a built-up seating? Built up tank top How is the engine started? Compressed Air
the engine be directly reversed? Yes If not, how is reversing obtained? -
the engine been tested working in the shop? Yes How long at full power? 12 hours 396 N.

ANK & FLYWHEEL SHAFTING. Date of approval of torsional vibration characteristics of the propelling machinery system 14-11-57 State barred speed range(s), if imposed
working propeller - For spare propeller - Is a governor fitted? Yes Is a torsional vibration damper or detuner fitted to the shafting? No
re positioned? - Type - No. of main bearings 9 Are main bearings of ball or roller

? No Distance between inner edges of bearings in way of crank(s) 958 Distance between centre lines of side cranks or eccentrics of opposed piston engines -
akshaft type: Built, semi-built, solid. (State which) built
meter of journals 550 mm Diameter of crankpins Centre 550 mm Breadth of webs at mid-throw 1160 Axial thickness of webs 280
Side - Pins Forged SM. steel Minimum 44 Kg/sq.mm
runk, radial thickness around eyeholes 300 mm Are dowel pins fitted? No Crankshaft material Journals - " - Approved - " -
Webs Cast steel Tensile strength 44 " 2021
meter of flywheel 2240 mm Weight 6320 Kg Are balance weights fitted? yes Total weight 9960 Kg Radius of gyration 1070 mm
meter of flywheel shaft 520 Material Forged SM. steel Minimum approved tensile strength 44 Kg/sq.mm
wheel shaft: separate, integral with crankshaft, integral with thrustshaft. (State which) Integral with thrustshaft

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MAIN GAS TURBINES. Name and Type No.

No. of sets of turbines Open or closed cycle BHP per set at RPM of output shaft

How is drive transmitted to propeller shaft?

ARRANGEMENT OF TURBINES. HP drives at RPM HP gas inlet temperature pressure
(A small diagram should be attached showing gas cycle.) IP drives at RPM IP gas inlet temperature pressure
LP drives at RPM LP gas inlet temperature pressure

No. of air compressors per set Centrifugal or axial flow type? Material of turbine blades
compressor blades No. of air coolers per set No. of heat exchangers per set How are turbines started?

How is reversing effected? Are the turbines operated in conjunction with free piston gas generators?

Total No. of free piston gas generators Diameter of working pistons Diameter of compressor pistons No. of double strokes
minute at full power Gas delivery pressure Gas delivery temperature Have the turbines and attached equipment been tested
in the shop? How long at full power?

ELECTRIC PROPULSION (Reciprocating engines or gas turbines. Electrical particulars to be reported on Form 4d.)

No. of generators KW per generator at RPM AC or DC? Position
No. of propulsion motors SHP per motor at RPM Position
How is power obtained for excitation of generators? Motors?

REDUCTION GEARING (Reciprocating engines or gas turbines. A small line sketch should be attached showing arrangement of gearing.)

Is gearing of single or double helical type? If single, position of gear thrust bearing Is gearing of epicyclic type?

PCD of pinions: First reduction Second reduction PCD of wheels: First reduction Main
Material of pinions Tensile strength Material of wheel rims Tensile strength
Are gear teeth surface hardened? How are teeth finished? Diameter of pinion journals
journals Are the wheels of welded construction? Is gearcase of welded construction? Has the wheel/gearcase been heat treated on contact surfaces?
of welding? Where is the propeller thrust bearing located? Are gear bearings of ball or roller type?

CLUTCHES, FLEXIBLE COUPLINGS, ETC. If a clutch or other flexible connection is fitted between engine/turbine and gearing or between engine and line shafting gear, description and, for clutches, state how operated

Can the main engine be used for purposes other than propulsion when declutched? If so, what?

STRAIGHT SHAFTING. Diameter of thrustshaft 520 Material SM. Steel Minimum approved tensile strength 44 Kg/sq. cm
Shaft separate or integral with crank or wheel shaft? Integral with flywheel shaft Diameter of intermediate shaft 435 mm Material SM. Steel
Minimum approved tensile strength 44 Kg/sq. cm Diameter of screwshaft cone at large end 480 Is screwshaft fitted with a continuous liner? Yes
Diameter of tube shaft. (If these are separate shafts) Is tube shaft fitted with a continuous liner in way of stern tube Thickness of screw/tube shaft
bearings 23.5 Thickness between bearings 20 mm Material of screw/tube shaft SM. Steel Minimum approved tensile strength
Is an approved oil gland fitted? No If so, state type Length of bearing next to and supporting propeller 2015 mm
Material of bearing Lignum vitae In multiple screw vessels is the liner between stern tube and A bracket continuous? If not, is the exposed length of shafting between liners readily visible in dry dock?

PROPELLER. Diameter of propeller 5700 mm Pitch 4500 mm Built up or solid solid Total developed surface 51%
No. of blades 4 Blade thickness at top of root fillet 212 mm Blade material Mang. Bronze Moment of inertia of dry propeller 88990
If propeller is of special design, state type Is propeller of reversible pitch type? No If so, is it of approved design?
State method of control Material of spare propeller Cast iron Moment of inertia 111870 Kg/sq. cm

AIR COMPRESSORS & RECEIVERS. No. of main engine driven compressors per engine Can they be declutched?
No. of independently driven air compressors. (State capacity, prime mover, position in ship, and Port and No. of certificate) Two each Elect. driven 200 cu.m./hr. Lower Platform (s.s.) (Cert. No. 58/1520); One Diesel driven 10 cu.m./hr. Eng. R. Lower Platform
No. of starting air receivers. (Main and Aux. State capacity of each, position in ship and Port and No. of Certificate) Two Each 10 cu.m. Eng. R. Middle Platform Cert. No. (VNA. No. C. 00549); One 200 Litre Eng. R. (s.s.) Cert. No. (VNA. No. C. 00512)
How are receivers first charged? Hand Started Diesel Compressor Maximum working pressure of starting air system 25 Kg/sq. cm Are the safety devices in accordance with the Rules? Yes Has the starting of the main engines been tested and found satisfactory? Yes

COOLERS. No. of main engine fresh water coolers 1x240 sq. m No. of main engine lubricating oil coolers 1x240 sq. m

OIL FUEL TANKS. No. and position of oil fuel settling or service tanks not forming part of hull structure 1x Boiler service tank 3th. E.R.

MAIN ENGINE DRIVEN PUMPS (No. and Purpose) 1 Lever driven piston booster pump

Service for which each pump is connected to be marked thus X																
INDEPENDENT PUMPS Below essential pumps, state position and how driven. Give capacity of bilge pumps.	SUCTION								DELIVERY							
	Bilge Main	Bilge Direct	Ballast Main	Oil Fuel	Fresh Water Cool- ing	Sea	Feed Tanks	Lub. Oil	Boiler Feed	Salt Water Cool- ing	Fresh Water Cool- ing	Oil Fuel Tanks	Fire Main	Lub. Oil	Piston Cool- ing	C/ B
275 cu.m/h S.W.cooling pump driven E.R.(s.s.)mid.		X				X				X						
175 cu.m/h F.W.cooling p. pump driven E.R.(s.s.)mid.					X	X					X					
500 cu.m/h lub.oil pumps pump driven E.R.(s.s.)aft.								X						X		
500 cu.m/h fuel/oil transfer pump el. driven ER(p.s.)mid.				X								X				
1500 cu.m/h ballast pump pump driven ER (p.s.)forwd.	X	X	X	X		X				X						X
400 cu.m/h bilge pump pump driven ER(p.s.)forwd.	X	X				X							X			X
500 cu.m/h fire exting.p. pump driven ER(p.s.)mid.						X							X			
15 t/h F.W.cooling pump pump driven ER.(s.s.) mid.					X	X					X					
35 t/h S.W.cooling pump pump driven ER.(s.s.)mid.						X				X						
secondary feed pumps							X			X						
steam driven ER(s.s.) aft								X		X						
primary feed pumps								X		X						
steam driven Boiler flat.																
600 t/h bilge pump steam driven.Pump Room forwd.	X															X

SE SUCTIONS. No. and size in each hold, deep tank or pump room

Pump Room aft. 1x21" Pump Room fwd. 3x4"

and size connected to main bilge line in main engine room 1x3" 3x3" port; 1x3" stb. In tunnel -

Size and position of direct bilge suction in machinery spaces St. One 4"

Size and position of emergency bilge suction in machinery spaces One P.S. 6" dia

Do the piping arrangements comply with the Rules including requirements for ships carrying petroleum in bulk, cargo oil or classed for navigation in ice? (strike out words not applicable). Yes

STEAM & OIL ENGINE AUXILIARIES				
Position of each	Type	Made by	Port and No. of Rpt. or Cert.	Driven Machinery (For electric generators, state output)
43-39 stb.-ER	Diesel 620 MTBH30	B & W	CPN 16743. (Rpt) ✓	220 KW Alternator
36-32 stb.-ER	"	"	"	"
43-39 port-ER	"	"	"	"
39-33 port-ER	Steam	Bellis & Morcom	BHM.C.33285 (Cert) ✓	100 KW Alternator

Electric current used for essential services at sea? Yes If so, state the minimum No. and capacity of generators required in order that the ship may operate

One - 220 KW 220V AC Is an electric generator driven by Main Engine? No

Primary 50 kg/sq. cm W.P. Second 12.5 Type Watertube Indirect Evaporation

STEAM INSTALLATION. No. of donkey boilers burning oil fuel 2 W.P. Second 12.5 Type Watertube Indirect Evaporation

Boiler Plat. Aft. Eng. Room Middle Platform Level

superheater fitted? No Are these boilers also heated by exhaust gas? No No. of donkey boilers heated by exhaust gas only? One W.P. 12.5 Kg/sq. cm

Water tube boiler Position Casing above boiler plat. Can the exhaust heated boilers deliver steam directly to

steam range or do they operate only as economisers in conjunction with oil fired boilers? Direct to range Port and No. of report on donkey

Ham 6597 and RK 747 Is steam essential for operation of the ship at sea? No Are any steam pipes over 3 ins. bore? Yes If so, what is their

material? copper For oil fired boilers is the arrangement of pipes, valves, controls, etc., in accordance with the Rules? Yes No. of oil burning pressure

No. of steam condensers One No. of Evaporators One

GEARING GEAR. (State No. and Type of Steam Engines, Electric Motors, Hydraulic Pumps and other particulars) "Donkins" make 4 Ram. Elect. Hydraulic

gear with two Electric Motors and two Rotary Pumps.

Are the Rule Requirements for fire extinguishing arrangements been complied with? Yes Brief description of arrangements Steam Smothering system in Cargo Tanks

Pump Rooms, Eng. Rm. and Blr. room / Hydrants and Hoses / 1x136 litres; 1x45 litres; 12x9 litres Froth; 1x45 litres CO2.

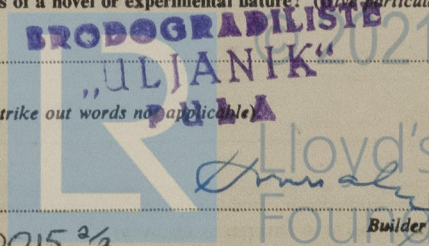
the spare gear required by the Rules been supplied? Yes Has all the machinery been tried under full working conditions and found satisfactory? Yes Date and duration of full-

er sea trials of main engines 18th March 59 - 6 hours Does this machinery installation contain any features of a novel or experimental nature? (Give particulars)

No

foregoing description of the main engine and installation is correct and the particulars are as approved for torsional vibration characteristics (strike out words not applicable)

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GENERAL REMARKS

State if the machinery has been constructed and/or installed under special survey in accordance with the Rules, approved plans and Secretary's letters. State quality of materials and workmanship recommendations for classification, including any special notation to be assigned. Where existing machinery is submitted for classification the circumstances should be explained as fully as possible.

The machinery of this ship has been constructed and installed under Special Survey in accordance with the Rules of the Society, Approved Plans and Secretary's letters.

The materials and workmanship are good.

On completion, the main engine was examined under working conditions on the test bench and on completion of installation, the main and auxiliary machinery, steering gear windlass were examined under full working conditions at sea with satisfactory results, and is in my opinion eligible for classification with the Society with the following notation:

+LMC. 4.59: TS-CL: 2WTDB. Primary 50 Kgs/sq.cm. Secondary 12.5 Kgs/sq.cm.: 1WTDB

7/10/66

(oil fired)

1800

A. Butler
A. Butler

Engineer Surveyor to Lloyd's Register of Shipping

PARTICULARS OF IDENTIFICATION MARKS (Including Port of origin) of important Forgings and Castings. (Copies of certificates should be forwarded with report.)

RODS Piston:- RKA 1971, 1972, 1974, 1975, 1852, 2398, 2399 with dates and initials.

Connecting:- RKA 2358, 2641, 2642, 2643, 2644, 2859, 2860 with initials and dates

CRANKSHAFT OR ROTORSHAFT CPN 3553, 3554 with dates and initials

FLYWHEEL SHAFT

THRUSTSHAFT CPN 3555 with dates and initials

GEARING

INTERMEDIATE SHAFTS SPT. 1042M and 1058M with dates and initials

SCREW AND TUBE SHAFTS SPT. 999 and 1056M (Spare) with dates and initials

PROPELLERS made by Lips Propeller Works, Drunen, Holland, Prop. No. 11545 (L.R. 7895) AVH 1

OTHER IMPORTANT ITEMS Cyl. Liners SPT. 2205, 2206, 2224, 2263, 2264, 2265, and 2428, 2429.

Cyl. Heads RKA 1159, 1160, 1162, 1166, 1200, 1201, 1202, 1203.

Cyl. Jackets RKA 1087, 1100, 1139, 1284, 1285, 1286, 1303

Is the installation a duplicate of a previous case? No

If so, state name of vessel

Date of approval of plans for crankshaft

Straight shafting

14.11.57

Gearing

Clutch

Separate oil fuel tanks

5.12.58

Pumping arrangements

14.8.58

Oil fuel arrangements

15.8.58

Cargo oil pumping arrangements

17.6.57

Air receivers

Donkey boilers

Dates of examination of principal parts:-

Fitting of stern tube

19.5.58

Fitting of propeller

23.5.58

Completion of sea connections

23.5.58

Alignment of crankshaft in main bearings

15.3.58

Engine checks & bolts

3.2.59

Alignment of gearing

Alignment of straight shafting

4.11.58

Testing of pumping arrangements

17.6.57

Oil fuel lines

5.2.59

Donkey boiler supports

30.9.58

Steering machinery

18.3.59

Windlass

18.3.59

Date of Committee

FRIDAY 10 JUL 1959

Special Survey Fee

£ 544-10-00 + 305

Decision

See Rpt. 1.

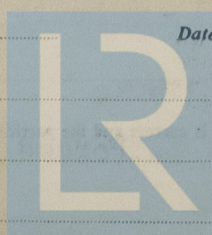
Expenses

93.000.-

Late Attend

14.11.57

Date when A/c rendered



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